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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,682	10/01/2003	John Frederick Knifton	TH1754 (US)	8213
23632	7590	02/06/2007	EXAMINER	
SHELL OIL COMPANY P O BOX 2463 HOUSTON, TX 772522463			LAO, MARIALOUISA	
		ART UNIT	PAPER NUMBER	1621
SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE		
3 MONTHS	02/06/2007	PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/676,682	KNIFTON ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	MLouisa Lao, Ph.D.	1621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(e). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 18 December 2006.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-4 and 6-9 is/are rejected.
- 7) Claim(s) 5 and 10 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____.
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>1/1/03;3/25/04;3/21/05</u> .	5) <input type="checkbox"/> Notice of Informal Patent Application
	6) <input type="checkbox"/> Other: _____.

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments via the amended claims 2 and 7, see pages 4-6, filed December 18, 2006, with respect to the rejection(s) of claim(s) 2 and 7 under 35 USC§112 have been fully considered and are persuasive. The rejection of claims 2 and 7 has been withdrawn.
2. Applicant's arguments, see pages 4-6, filed December 18, 2006, with respect to the rejection(s) of claim(s) 1-10 under USC§102(b), have been fully considered and are persuasive. The rejection of claim(s) 1-10 has been withdrawn.
3. Applicant's arguments, see pages 4-6, filed December 18, 2006, with respect to the rejection(s) of claim(s) 1-10 under USC§103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. **However, upon further consideration, a new ground(s) of rejection is made.**

### *Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1-4 and 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over the applicants' own admission recited in independent claim 1 of the prior art. Drafting a claim in Jepson format (i.e., the format described in 37 CFR 1.75(e); see MPEP § 608.01(m)) is taken as an implied admission that the subject matter of the preamble is the prior art work of another. *In re Fout*, 675 F.2d 297, 301, 213 USPQ 532, 534 (CCPA 1982) (holding preamble of Jepson-type claim to be admitted prior art where applicant's specification credited another as the inventor of the subject matter of the preamble).

8. The invention identifies the prior art in independent claim 1 as a Jepson claim, where the improvement of the current application is the replacement of sodium hydroxide with a

hydroxide, like *inter alia*, potassium hydroxide, to reduce the viscosity of the reactive heavy components.

9. It would have been obvious at the time that applicant's was made to have used other hydroxides with a reasonable expectation of success of producing a 1,3-propanediol from 3-hydroxypropanal.

10. One skilled in the art would have been motivated to use other hydroxides as a matter of choice depending on such variables as availability and cost.

11. Moreover, albeit the applicants' showing in pages 9-10 of the specification is sufficient, particularly for the use of the hydroxides of potassium and ammonium, it is deficient and not commensurate with the other claimed hydroxides, as recited.

12. The applicants are respectfully invited to provide a showing that clearly demonstrates that the other hydroxides (for example, the divalent cationic hydroxides) would likewise produce a trend in the reduction of viscosity.

***Allowable Subject Matter***

13. Claims 5 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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14. The following is a statement of reasons for the indication of allowable subject matter: The prior art is replete with the processes for making 1,3-PDO, however, the instant application has addressed the issue of viscosity reduction that purports to its deleterious effect, as expounded in page 5 lines 11-34 continuing to page 6 lines 1-2 of the specification, that prohibits the efficacy of distillation in a conventional equipment. The applicants further state in lines 16-20 page 6 of the specification that the viscosity of the reactive heavy component stream in the distillation of crude PDO is lowered by a factor of 100 or more when using hydroxide, other than the prior sodium hydroxide.

Thus, the prior art does not manifestly foreshadow the instant application.

*Correspondence*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MLouisa Lao, Ph.D. whose telephone number is 571-272-9930. The examiner can normally be reached on 8:30am to 5:30pm Mondays to Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thurman Page can be reached on 571-272-0602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair>-

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direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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MLouisa Lao, Ph.D.  
Examiner  
Art Unit 1621

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*FOR*

*For* THURMAN PAGE  
SUPERVISORY PATENT EXAMINER  
GAU 1621